Career Concerns and "Unpaid" Executives*

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Abstract: A significant portion of CEOs in publicly-listed Chinese state-owned enterprises receive zero pay from the companies for which they work. Instead, they are paid directly by their controlling shareholder who can be the Chinese government or parent firms controlled by the Chinese government. While their actual pay is unobservable, it is known to be low and contain few performance-based incentives. We explore how these parent-paid executives are motivated and whether the outcomes of this unusual incentive differ from conventional compensation. Consistent with career concerns as their main incentive, we find that these CEOs have a significantly higher probability of future promotion than other CEOs. We also conduct an event study using the Split Share Structure Reform in 2005. The reform liberalized the Chinese stock market and enhanced the role of the market mechanisms that potentially replaced promotion incentives in executive compensation contracts. Our evidence is generally consistent with a reduction in the strength of promotion incentives following the reform. Further analyses indicate that, compared to peers that directly pay their CEOs, firms with parent-paid CEOs have higher return on assets and asset growth, and they experience less tunneling by their shareholders.

Keywords: career concerns, promotion, Chinese SOEs, executive compensation

JEL Classification: G30; J30; M12; M52

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1. Introduction

A surprisingly high portion of the executives of publicly-listed Chinese state-owned enterprises (SOEs) do not receive any compensation from the firms for which they work. During our sample period of 1999–2011, almost 40% of the highest ranked executives in publicly listed Chinese SOEs received zero pay, that is, the pay disclosed for these executive officers/directors in company filings with the Chinese stock exchange is zero.[1] The Chinese business community and popular press are puzzled over this phenomenon and often attribute it to the underdevelopment of the market system in China.[2] In this paper, we attempt to provide some insight into this unusual compensation practice by examining it as an incentive mechanism and evaluating its effectiveness.

The Chinese press refers these executives as "unpaid", which is a misnomer. Rather than being paid by the publicly-listed companies that officially employ them, most of these unpaid executives are actually paid by their firm's controlling shareholder and the details of the compensation are not publicly disclosed. Controlling shareholders are either a government agency or a parent company controlled by the government. Compared to their peers who are directly paid by the publicly listed companies, compensation of the unpaid executives is unobservable, but is significantly lower[3] and Chinese compensation schemes contain few performance-based incentives (Conyon and He 2011; Bryson et al. 2014). In the remainder of the paper, we refer the executives that are paid by their firms' controlling shareholders as "parent-paid" and those that are paid directly by their firms as "firm-paid".

[1] This is different from the case of undisclosed pay. When a firm chooses not to disclose the pay of an executive, the database reports the corresponding pay level as "undisclosed".
[2] For example, Business magazine warned that zero pay is terrible, claiming that resulting disincentives could lead to worse consequences than overly high pay (Ma, 2009). Securities Daily reported that 346 CEOs of publicly-listed firms received zero pay in year 2012, and therefore "may not care about firm performance" (Jiao, 2013). More recently, China Securities Journal pointed out the executives in almost 300 firms received zero compensation, while their peers in other firms enjoyed a significant raise (Dai, 2016).
[3] Starting in 2012, firms were required to disclose compensation even for CEOs who were paid by the parent. In unreported analysis for 2012, we find that total compensation is significantly lower for CEOs who were paid by the parent rather than by the company for which they worked.

This phenomenon of parent-paid Chinese executives is unique and differs significantly from a few other cases of compensation practice that may seem similar on the surface. For example, many tech company founders such as Google's Sergey Brin and Larry Page, Facebook's Mark Zuckerberg, Tesla's Elon Musk, choose to receive zero compensation or one dollar token pay. In these cases, the lack of pay is due to their enormous personal wealth (Hamm et al. 2015), most likely created through their company share ownership. Clearly, this is not the case for Chinese CEOs, since these CEOs own very few shares of their companies, if any. Another case is where executives work mainly in the headquarters but have nominal positions in the subsidiaries. This is common in family firms or firms owned by private equity investors. In contrast, our study focuses on CEOs whose responsibilities in the subsidiaries are full time in nature, but are paid by the headquarters.

The uniqueness of these parent-paid executives stems from the fact their incentives are not driven by financial rewards alone. While they are significantly under-paid and under-incentivized through monetary compensation, other forms of incentives could make up the missing portion of CEO motivation and discipline. In this paper, we argue that the parent-paid executives are strongly motivated through implicit incentives. We investigate how career concerns may motivate parent-paid executives and whether outcomes differ from a pure conventional financial incentive approach.

We first investigate whether career concerns incentives differ between parent-paid and firm-paid CEOs. Career concerns are an incentive related to "concerns about the effect of current performance on future compensation" (Gibbons and Murphy 1992, p. 468). Career concerns can be manifested through consideration of one's reputation, hope for promotion, or avoidance of termination, etc. Fama (1980) suggests that competition in the labor market alone might give managers sufficient incentives without explicit agency contracts. In our setting, the primary labor market mechanism for CEOs to advance is promotion. We explore

CEO promotions to a government position and business promotions, either to a higher-level title in the parent group or to an executive position at a larger firm.

Using a dataset of 8,602 SOE firm-years between 1999 and 2011, we find that relative to firm-paid CEOs, parent-paid CEOs have a three times higher probability of getting promotion in the following year. Our results support the conjecture that parent-paid CEOs have a strong incentive related to future promotion. However, it is possible that the higher promotion probability is driven by the pre-selection of CEOs with superior quality for the parent-paid contracts. To rule out this alternative explanation, we first examine the relation between the choice of a CEO to sign a parent-paid contract and the career outcome of her predecessor, which serves as a proxy of ex ante expectation of promotion. We find that the promotion of an outgoing CEO is significantly associated with the incoming CEO's willingness to accept parent-paid contract. Using this proxy of ex ante expectation as instrument, our two-stage model analyses provide further evidence consistent with use of promotion incentives. We then control for innate characteristics of CEOs by exploring cases where CEOs switch between firm-paid contracts and parent-paid contracts during their tenure. Compared to their peers without a contract change, we find that CEOs switching from firm-paid to parent-paid contracts enjoy a higher probability of future promotion, while CEOs switching from parent-paid to firm-paid contracts have a lower probability of future promotion. These robustness tests indicate that our findings are consistent with implicit incentives rather than CEO pre-selection.

To further demonstrate the link between promotion outcome and the composition of incentives, we conduct an event study using the 2005 Split Share Structure Reform (hereafter, "Reform"). In an attempt to mitigate conflicts between controlling and non-controlling shareholders, the Reform allows shares that were initially non-tradable (typically owned by the government) to be traded freely in the stock market. The Reform further privatizes and

liberalizes the Chinese stock market by improving its liquidity, operating efficiency, and corporate governance (Li et al. 2011; Chen et al., 2012; Liao et al. 2014; Ke et al. 2015). As a consequence, the Reform reduces the need for internally generated incentive systems in executive compensation by strengthening the effects of external governance mechanisms, such as takeovers and monitoring by other groups of shareholders. We expect the promotion incentive for parent-paid executives to become weaker after the Reform and the incentives of parent-paid and firm-paid executives to become similar. The results of our analyses are consistent with our prediction, providing evidence that subsequent to the Reform, the probability of future promotion for parent-paid CEOs declined.

We next examine the association between performance outcomes and career concerns as a managerial incentive. Contrary to the concerns raised by the Chinese popular press, we find that the performance of firms with parent-paid CEOs is in line with that of their peers with firm-paid CEOs. In fact, we find that firms with parent-paid executives tend to have higher return on assets and asset growth, while the stock returns, asset turnover, sales growth, and growth in number of employees are not significantly different from firms with firm-paid executives. After controlling for executive perks, however, firms with parent-paid CEOs exhibit better operating efficiency and higher sales growth. The results indicate that career concerns can effectively motivate CEOs.

Prior research provides evidence that Chinese SOEs engage in "tunneling"— the transfer of resources from publicly listed subsidiaries to the government-owned parent firm. In our setting, it is also possible that the strong promotion incentives drive parent-paid CEOs to act in preference to the parent company rather than minority shareholders. We examine tunneling as a potential downside of the promotion incentives. Surprisingly, for the entire sample period, firms with parent-paid CEOs tunnel less via transfers to controlling shareholder than firms with firm-paid CEOs.

Our paper makes several contributions to the literature. First, it provides a unique natural experiment to empirically examine the effectiveness of career concerns relative to monetary incentives through performance-based pay. Career concerns have been difficult to examine with data from typical executive labor markets such as in North America, since they essentially represent an unobservable variable at individual level. Empirical studies have provided support for the effectiveness of career concerns in various settings, such as mutual fund managers avoiding termination (Chevalier and Ellison 1999), CEOs near retirement seeking for board positions (Brickley et al, 1999), mid-level managers seeking promotions (Ederhof, 2011), and sports coaches facing intense labor market competition (Cadman and Cassar, 2014). This prior research could only use inexact measures such as the executives' age and tenure to proxy for career concerns. In contrast, Chinese SOEs offer a unique setting where the firm-paid and parent-paid executives face different incentive methods and where we can control for individual characteristics.

Second, we provide insights regarding a significant portion of firms that have been ignored in prior literature. CEOs of almost 40% of the firms in our sample that have parent-paid CEOs are generally omitted from research on Chinese compensation because their pay is not reported. This results in an incomplete picture of compensation practices and their impact on Chinese companies. Furthermore, prior research has shown that the pay-performance sensitivity in Chinese firms is significantly lower than that of comparable American firms (i.e., Conyon and He 2011; Bryson et al. 2014). The managerial incentive through performance-based pay seems to be especially low in publicly listed Chinese SOEs. We find evidence that career concerns can provide as strong (if not stronger) incentives as conventional performance-based pay and that this incentive scheme does not appear to lead to anti-productive behaviors such as tunneling. Our findings thus provide insights into why Chinese SOEs perform well despite their seemingly inadequate use of typical incentives.

Third, given the prevalence of business groups in emerging markets and some developed countries, our findings have implications for design of employment contracts involving unconventional incentive mechanisms. Our evidence on promotion incentives complements the existing findings on the importance of internal labor market in business groups (Tate and Yang 2014; Belenzon and Tsolmon 2016; Cestone et al. 2018). Our result of less tunneling by parent-paid executives also relates to prior literature of tunneling in business groups (e.g., Johnson et al. 2000; Bertrand et al. 2002; Siegel and Choudhury 2012; Buchuk et al. 2014).

Finally, our study shows unexpected consequences of the Split-Share Structure Reform on the incentives of SOEs. Prior literature emphasizes efficiency gains from increased marketization of stemming from the reform (e.g., Li et al. 2011; Chen et al., 2012; Liao et al. 2014). Our results indicate that the reform has damped the strength of career concern-related incentives for SOE executives.

2. Background and hypotheses development

2.1. Institutional setting

As China transitions to a market economy, Chinese SOEs have become increasingly more market-oriented and the Chinese government has sought to enhance SOE efficiency. However, due to social and political concerns SOEs continue to be subject to government interference (Shleifer and Vishny 1997). The government can compel SOE firms to enter government-favored industries, pay additional taxes, increase local employment regardless of need, or provide social services to alleviate fiscal and employment problems (Bai and Xu 2005; Bai et al. 2006). SOEs also are subject to fulfilling governmental objectives (Lin and Li 2008). For example, the mission set out for the Chinese SOEs, under the 11th five-year plan (2006–2010), was to "grow bigger and stronger" and, under the 12th five-year plan (2011–

2015), to "upgrade economic structure and pursue excellence." These objectives do not necessarily align with market incentives.

Representing the government, the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) regulates and supervises SOEs at both national and local levels. SASACs appoint, evaluate, compensate, dismiss, and promote SOE executives. Although SASACs have tried to promote incentive pay that links firm performance measures such as profit, profitability, and Economic Value Added© to salaries, their efforts have largely been unsuccessful. This is largely because SASAC decisions often reflect political priorities of the government rather than market-based considerations. The majority of executive salaries still depend on firm location, industry, firm size, and the executive's bureaucratic rank, job type and personal qualifications.

The majority of SOE executives come either from the bureaucratic system or from internal SOE promotions. Due to social concerns, the government has imposed regulations capping executive compensation at some multiple of the average pay of employee.[4] Moreover, SASACs are conservative with respect to providing high-powered incentives such as equity compensation. Even in the rare cases when executives do get some equity incentives, it is still difficult for them to pocket the gains from increased stock value. These granted stocks are thus more window-dressing than genuine compensation (Chen et al. 2013).

Career incentives play a large role for SOE executives. After serving in SOEs for a length of time, many SOE executives obtain government positions. An example is Gang Xiao, the former chairman of Bank of China (a central SOE), who was promoted to become the chairperson of China Securities Regulatory Commission in 2013 (the regulator of Chinese

[4] For instance, in 2004, SASAC issued "Interim measures on compensation of managers in central enterprises". It specified that base salary of a manager could not exceed 5 times of average employee salary in SOEs. Starting in 2015, SOEs controlled by the central government face further requirements that limit the level of executive pay.

stock market). SOE executives can also be promoted via transfer to another SOE. On May 27, 2016, Zou Lei, the chairman of Harbin Electric Corp., became the chairman of Dongfang Electric Corp., and Zefu Si, the general manager of Dongfang Electric Corp., became the chairman of Harbin Electric Corp. In both cases, the new positions were with larger companies, resulting in more prestigious positions. Appendix A provides an example of the structure of a typical local-level SOE.

2.2. Career concerns

An economic agent can be motivated through various incentive schemes. An explicit incentive system typically includes a formal contract that specifies a pre-determined relation between the manager's performance and pay. In contrast, career concerns do not involve formal contracts. Instead, the agent exerts effort today in the hope for a reward tomorrow. This reward could be a new job, a promotion, avoiding termination, or simply a good reputation in the labor market. For example, a politician or a junior faculty member may work diligently in the hope of being reelected or tenured, despite the lack of performance-based pay in their compensation.

Holmstrom (1982) models career concerns through a two-period game, in which the agent's second-period pay depends on first-period performance. The agent must determine how much effort to exert in the first period to maximize total utility across both periods. The principal tries to infer the agent's ability from the first-period performance and uses that information to determine second-period pay. In equilibrium, the agent exerts positive effort even when wages in both periods are fixed (zero pay-for-performance sensitivity).[5]

Empirical research on career concerns often uses age or job horizon as a proxy for strength of the incentive. For example, Gibbons and Murphy (1992) find that the general

[5] Note that the incentive provided by career concerns is not without flaws: agents typically over-exert earlier in their careers and under-exert later.

sensitivity of the executive's pay is significantly stronger for those who will retire soon than for those who still have many years until retirement. This is because younger executives have stronger career concerns and can be motivated without performance-based pay. In contrast, compensation for older executives must be explicitly linked to their performance for them to be motivated. Chevalier and Ellison (1999) study the behavior of mutual fund managers and their incentive to avoid termination. They find that young managers herd to avoid unsystematic risk and stay in their jobs. Yim (2013) finds that younger CEOs are more aggressive in mergers and acquisitions, since acquisitions tend to significantly increase a CEO's future compensation.

Of course, career concerns are not limited to young managers. For example, CEOs near retirement, who seek post-retirement board positions, demonstrate significantly better performance (Brickley et al. 1999). Although Gayle et al. (2015) suggests that career concerns are most effective at the middle ranks, Ederhof (2011) finds evidence that mid-level managers, who have weaker chance to be promoted to the top level, have fewer incentives related to career concerns and receive stronger bonus-based incentives.

China offers a unique experimental setting in which to examine incentive issues related to career concerns. Due to its political ideology and rapidly expanding economy, the incentive mechanisms used in China and other parts of Asia often differ from those in western economies. First, although CEO pay appears to be positively related to stockholders' wealth, firm profits, or both, pay-performance sensitivity for firms controlled by private block holders is still quite low (Conyon and He 2011). Prior literature also finds mixed results on performance-based managerial incentives in the Chinese SOE setting. Mengistae and Xu (2004) find that unlisted SOE executives' pay is linked to firm performance. However, Firth et al. (2006a) and Cao et al. (2011), find no evidence of pay-for-performance sensitivity in firms controlled directly by government agencies, although there is some evidence of a

positive sensitivity in firms controlled by the government through multiple layers. Prior literature on Chinese firms largely excludes executives paid by the parent group from the research design. Consequently, results in the literature might underestimate managerial incentives for SOE executives. Further, CEO turnovers in SOEs consist of both promotions to higher ranks in business groups and political positions in governments. Perhaps due to omitting consideration of these characteristics, prior studies show mixed results on turnover-performance sensitivity. For instance, Groves et al. (1995) find that management turnover in unlisted SOEs is negatively related to firm performance. Firth et al. (2006b) find that listed SOEs exhibit turnover-performance sensitivity. Kato and Long (2006) and Ke et al. (2012) fail to find a relation between executive turnover and firm performance in SOEs. As an exception, Cao et al. (2014) examine the substitution effect between the political motivation and monetary incentives. Specifically, they find that monetary incentives (based upon levels of compensation) are weaker when CEO incentives are driven by political career concerns. However, parent-paid executives are still missing from their sample.

A substantial literature has examined implications of political connections as a proxy for career concerns. For instance, Fan et al. (2007) focus on China's newly partially privatized firms during 1993-2001, and find that three-year post-IPO stock returns are lower for firms with politically connected CEOs than for those without politically connected CEOs. In contrast, using data from 2001 to 2005, Hu and Leung (2009) find a significant increase in firm performance following the appointment of political executives in SOEs—a performance improvement that does not occur in firms that appoint managers without political backgrounds and experience.

We argue that political connection is not necessarily a good proxy for career concerns as an incentive mechanism. While political connections may increase the number of available jobs, promotions are more likely to be based on performance while on the job. Promotions for

CEOs are also likely to be business rather than political in nature (in our sample, they are twice as likely) and are therefore less likely to be driven by political connections. Our setting thus provides a cleaner proxy for career concerns by using the probability of future promotion. We also control for the CEO's work history in the government, which has an indirect relation with these incentives.

2.3. Hypothesis development

Unlike firm-paid CEOs, parent-paid CEOs receive less compensation from their contracts. Their pay is primarily based on their rank, pay grade and seniority. Although they may receive nonmonetary perquisites, granting of these benefits does not appear to be performance-based. This means that the SOEs cannot rely on monetary incentives to provide incentives for parent-paid CEOs. We therefore argue that the primary performance incentive for these executives is the possibility of promotion (i.e., career concerns) (Holmstrom 1982). A higher likelihood of promotion increases the strength of the incentive, so stronger incentives related to career concerns should manifest in a higher likelihood of future promotion for parent-paid CEOs in comparison with firm-paid CEOs. Our first hypothesis is therefore:

> H_1: *Ceteris paribus, relative to firm-paid CEOs, parent-paid CEOs have higher probability of future promotion.*

Thus far, we have argued that parent-paid CEOs' behaviors are predominantly affected by promotion incentives, since other types of incentives such as monetary pay for performance and market incentives play a small role in their contracts. However, if the nature of incentives changes, we expect to see a change in the strength of promotion incentives.

The Split Share Structure Reform of 2005 significantly changed the structure of incentives within the Chinese financial market. Prior to the Reform, the Chinese A-share stock market had a "split share" structure, featuring two types of shares: tradable and non-tradable. The non-tradable shares (comprising about two-thirds of the stocks in the A-share market) were stocks primarily owned by the Chinese government and affiliates. The split share structure was a legacy from the partial privatization of the Chinese economy and caused problems such as market illiquidity, operating inefficiency, and poor corporate governance (Sun and Tong 2003; Wei et al. 2005).

The Reform allowed the formerly non-tradable shares in the A-share market to gradually free float, with some SOE firms selected for pilot tests and other firms following shortly afterward. By the end of year 2007, almost all stocks in the Chinese A-share market were converted to tradable shares. Research has provided empirical evidence consistent with improved market incentives following from the Reform, with better risk sharing (Li et al. 2011), improvements to SOE performance (Liao et al. 2014), improved corporate governance (Cumming et al. 2011), and reduced cash holdings by SOE firms (Chen et al. 2012).

We argue that the Reform affects incentives for SOE firm executives overall and will differentially impact firm-paid versus parent-paid CEOs. After the Reform, market incentives become more effective, because SOE block holders can now exit (Hope et al. 2017) and the corporate control market becomes an active tool for the government (Ke et al. 2015). The Reform thus allows the market to more strongly discipline CEOs through mechanisms such as takeovers and enhanced monitoring by other groups of shareholders, rather than having to rely on promotion incentives. We thus conjecture that the shift toward market discipline will reduce the intensity of promotion incentives provided. Because we expect parent-paid CEOs

to initially have the strongest promotion incentives, as both types of firms become more exposed to market incentives, we expect that parent-paid CEOs will face a larger reduction in promotion incentives:

> H_2: *Relative to the pre-Reform period, the probability of future promotion for parent-paid CEOs decreases after the Reform.*

Given the incentive related to promotion for parent-paid CEOs, a natural question that arises is the effectiveness of this incentive, especially in comparison with the CEOs' firm-paid peers. It is possible that this type of contract results in stronger incentives for managers to perform. Of course, assuming incentive mechanisms are applied in an optimal way, *ceteris paribus* there should be no difference in performance outcomes under the different incentive schemes. However, off equilibrium results can always occur. For example, parent-paid CEOs may have better connections with the government and thus may enjoy an unfair advantage. On the other hand, the parent SOE may put the CEOs in place to extract resources from the company to pursue its own agenda such as social objectives, which would result in lower levels of financial performance and lower efficiency. It is thus an empirical question whether the promotion incentives related to career concerns result in the company performing better relative to more traditional compensation contracts, which place a higher weight on explicitly defined performance-based pay. This leads to our second hypothesis, with two parts.

> H_{3a}: *Ceteris paribus, financial performance of companies with parent-paid CEOs does not differ significantly from companies with firm-paid executives.*
>
> H_{3b}: *Ceteris paribus, operational efficiency in companies with parent-paid CEOs does not differ from companies with firm-paid executives.*

While a private firm seeks to maximize its profit due to market incentives, SOE interests at least partially reflect those of the government. SOEs often maximize a weighted

average of firm profit and the welfare of other parties in the economy. Thus, SOEs may place more emphasis on firm growth, because a larger organization is more likely to fulfill the societal needs of more jobs and goods. Further, unlike a private firm, an SOE may consider employment as a high priority and have incentives to overproduce (Bova 2015).

The parent companies for the SOEs do not necessarily trade publicly. These untraded parent SOEs have a broader objective than publicly traded subsidiaries. Unlike publicly traded firms, these firms also face less discipline from external monitoring and more interference from government. If possible promotion provides effective incentives for achieving the parent SOE's goals, parent-paid CEOs should focus on overall growth since the government specifically sets mission for "grow bigger and stronger". We should therefore observe higher growth in firms with parent-paid CEOs relative to firms with firm-paid CEOs:

> H_{3c}: *Ceteris paribus, growth in companies with parent-paid CEOs is higher than growth in companies with firm-paid executives.*

It is possible that the parent SOE appoints parent-paid executives to siphon wealth from publicly traded subsidiaries to the parent. Prior research provides evidence that Chinese CEOs engage in "tunneling," which is a transfer of subsidiary resources to the parent firm (Jiang et al. 2010). Cheung et al. (2010) find negative impacts of tunneling particularly for local (as opposed to central government) SOEs.[6]

In our setting, the association between tunneling and whether the CEO is officially paid by the company is not straightforward. If the parent-paid CEO is placed in the company to extract resources, then there should be more tunneling. On the other hand, due to stronger career concerns incentives, parent-paid CEOs may have stronger incentives to run the business successfully and thus, be less likely to tunnel:

[6] A firm is a local SOE if its largest shareholder is the local government or an entity whose ultimate owner is a local government.

H4: *Ceteris paribus, tunneling by companies with parent-paid CEOs does not differ from tunneling by companies with firm-paid CEOs.*

3. Research design

3.1. Data and sample selection

Our initial sample consists of all local SOEs listed in Shanghai and Shenzhen stock exchanges from 1999–2011.[7] We exclude firms in the financial industry and those with missing information, resulting in a total of 8,602 final firm-year observations.

We choose 1999 as the beginning of our sample period because that is when publicly listed firms in China started to systematically report executive compensation. Sample firms' financial information, compensation information, and governance information are from the China Stock Market and Accounting Research database (CSMAR). Following prior literature (Firth et al. 2006b; Kato and Long 2006; and Ke et al. 2012), we refer to the "chairperson of the board," the highest-ranked executive in the database, as the CEO of the sample firm. We manually collect executive characteristics from their published biographies. We also manually collect information about each CEO's next job after s/he leaves the listed firm by reading the firms' announcements and news reports.

3.2. Variables

We separate our sample into parent-paid and firm-paid CEOs. We define a CEO as parent-paid if she receives no compensation from the listed firm and as firm-paid CEO if her compensation is greater than zero. *Ppaid*, a dummy variable of parent-paid, equals to 1 if a CEO receives zero compensation from the listed firm and zero otherwise. Table 1 contrasts the sample sizes of firm-paid CEOs and parent-paid CEOs by year. Among the total of 8,602 firm-year observations, 3,379 (approximately 40%) report that the CEO receives zero

[7] We focus on local SOEs because the management of SOEs has been experienced a trend of decentralization since 1990s (Huang et al 2017).

compensation from the firm. The percentage of parent-paid CEOs is quite stable across the sample period, indicating persistence of this unusual compensation practice.

(Insert Table 1 here)

Following a CEO's career path, we examine two types of promotions: (1) political promotion to a position as government official, or (2) business promotion to a higher-level position in the parent group or an executive position at a larger firm. We construct a dummy variable (*Promotion*) that takes value of 1 if a CEO leaves for a job in the government, a higher position in the parent group, or as an executive position of a larger firm in the following year, and 0 otherwise. In addition to promotion, a CEO turnover can also result from retirement, health issue or mergers and acquisitions (i.e., change in control right). The retirement age for government employees including SOE managers is 60 for men and 55 for women. We identify cases of retirement by reading firm announcements and verifying the CEOs' age, and other cases through firm announcements. We then construct a variable to measure CEO turnover due to demotion (*Demotion*): 1 if a CEO leaves her position due to reasons other than retirement (including health issues), change in control right, or promotion, and 0 otherwise. Demotion cases also include executive turnovers due to criminal charges or regulatory charges. We also construct a composite measure that includes the continuum of career outcomes (*CareerOutcome)*, which takes value -1 for demotion, 1 for promotion, and 0 for all other outcomes.

3.3. Research model

To examine whether parent-paid CEOs have a higher probability of being promoted, we estimate the following model:

$$Promotion_{t+1} = \beta_0 + \beta_1 Ppaid_t + \beta_2 Age_t + \beta_3 Male + \beta_4 Dual_t + \beta_5 AROA_t + \beta_6 SalesGrowth_t + \beta_7 Size_t + \beta_8 Leverage_t + \beta_9 Largest_t + \beta_{10} CEOshare_t + \beta_{11} Government_t + \varepsilon_t \quad (1)$$

The dependent variable is the future probability of promotion (*Promotion)*. We also use the two alternative promotion-related dependent variables described above: *Demotion,* which represents negative career outcomes; and *CareerOutcome*, the continuum measure of career outcomes. We use a probit model for *Promotion* and *Demotion*, and estimate the model with *CareerOutcome* via an ordered probit. We expect β_1 to be positive for the models with *Promotion* and *CareerOutcome* and negative for the model with *Demotion*.

We include a battery of control variables to separate the promotion incentive from promotion based upon CEO characteristics and firm performance. *Age* is the CEO's age. *Male* is a dummy variable that equals 1 if the CEO is male and 0 otherwise. *Dual* is a dummy variable, taking value of 1 if a chairman is also the general manager of the listed firm and 0 otherwise. Prior literature suggests that many Chinese CEOs have political connections (e.g., Fan et al. 2007). Since the CEOs for SOEs are officially appointed by the government, political connection may benefit a CEO in the promotion decision. We thus control for the CEO's political connection with a dummy variable (*Government*) that equals 1 if the CEO had worked for the government or military before joining the listed firm and 0 otherwise. *AROA* is the average of return on assets (net income deflated by average assets) during CEO's tenure in a given year. *Sales growth* is firm sales in year t minus sales in year t-1, deflated by sales in year t-1. *Size* is natural logarithm of the firm's total assets. *Leverage* is the ratio of the firm's total liabilities over total assets. *Largest* is the percentage of the firm's stockholdings owned by the largest shareholder whose ultimate owner is the Chinese government. *CEOshare* is the percentage of shares owned by a CEO.

4. Empirical results

4.1. Univariate analyses

Panel A of Table 2 provides some univariate statistics for the firm-paid and parent-paid CEO samples. Parent-paid CEOs are older and more likely to be male. On average, firm-paid CEOs are 50.4 years old and parent-paid CEOs are slightly older with age of 51. Both groups are predominately male. While these figures differ from a statistical perspective, the values are not economically different. There are much greater differences across the subsamples in other areas. Parent-paid CEOs are more likely to have work experience in the Chinese government, including in the military (42.1% for parent-paid versus 34.6% for firm-paid), implying a closer tie with the government than for firm-paid CEOs.[8] Parent-paid CEOs are also less likely to hold dual positions (chairperson of the board and general manager) in the firm (2.0% for parent-paid versus 18.9% for firm-paid). The average tenure of the CEOs does not significantly differ between parent-paid and firm-paid CEOs (4.467 years versus 4.558 years respectively). Parent-paid CEOs are much more likely to hold a job title in the parent company (77.4% versus 45.8% for firm-paid CEOs). In addition to job titles in the listed firm, parent-paid CEOs on average have 1.8 other job titles, which is significantly more than the average of 1.3 job titles for firm-paid CEOs.[9]

Overall, 10.1% of the parent-paid CEOs experience a promotion, 3 times larger than that of firm-paid CEOs (2.4%). This difference between the groups in the probability of future promotion (either political promotion or business promotion) after they leave the publicly listed firms is both statistically and economically significant.[10] Parent-paid CEOs are less likely to be demoted (6.5% versus 9.2% for firm-paid CEOs), perhaps indicating the CEOs'

[8] We note, however, that there are a significant number of cases where the same CEO appears in our sample as paid in one year and unpaid in another year. This means that the choice of contract is not CEO-specific. We also find that the type of contract can differ from year to year within the same firm.
[9] Note that the CSMAR dataset only systematically provides information of job titles in other firms starting in 2001.
[10] To provide further insights, we divide the probability of promotion into business and political promotions, the parent-paid group exhibits significantly higher level of promotions in both categories than the firm-paid group by 1.6% (for political promotions) and 6.1% (for business promotions). The results show that promotions for CEOs are more likely to be business than political in nature, implying that promotions are not driven by political connections. We jointly consider both types of promotions in our multivariate models

higher ability or as additional enticement for these managers to accept lower-paying positions. For the sample as a whole, parent-paid CEOs have a significantly more positive career outcome (0.036 versus -0.068).

Our descriptive statistics regarding whether a CEO's predecessor received a promotion (*Prepromotion* = 1), indicate that 38.3 percent of the predecessors of our sample parent-paid CEOs were promoted, which is significantly higher than those of firm-paid CEOs in the sample (26.4 percent). Assuming that CEOs benchmark their future prospects by career outcomes of their predecessors, these results provide preliminary evidence that the two groups of CEOs face different incentive schemes, with parent-paid managers more likely to be incentivized by promotions.

We find further differences across CEO types at the firm level. Firms with parent-paid CEOs are significantly larger, with mean total assets of RMB 4.5 billion, which is almost 10% higher than for firms with firm-paid CEOs. The largest shareholder for firms with parent-paid CEOs has an average stock holding of 45.3%, which is 4.3% more than the average government stock holding in the firm-paid group. CEO share ownership is quite small for both groups, although statistically higher for firm-paid CEOs. On average, the parent-paid executives own 26,357 shares, which is significantly lower than 557,056 shares owned by the firm-paid executives. The two groups of firms are similar with respect to the degree of leverage and the percentage of independent directors on board of directors.

In general, operating performance is similar across samples, although average sales growth and asset turnover for the parent-paid group are significantly higher than for firms with firm-paid CEOs (significant at 1% for both). Although both groups have a negative average stock return, the parent-paid group's return is about 2% less negative than the firm-

paid group. Both groups have similar administrative expenses, changes in total assets, and changes in the number of employees.

Following Cheung et al (2010), Jiang et al. (2010) and Jian and Wong (2010), we use two proxies for tunneling: "*Transfer*" and "*OtherAR*." *Transfer* is defined as total amount of fund transfers through related party transactions from the listed firm to its parent company and/or other firms in the same group over total assets. *OtherAR* is defined as the firm's balance of other receivables over total assets. Although tunneling via "*Transfer"* does not differ significantly by CEO type, tunneling via *OtherAR* is significantly higher in the firm-paid sample.

Because we have panel data, individual CEOs are represented more than once in the dataset. For a more direct univariate comparison of firm- versus parent-paid CEOs, panel B of Table 2 presents descriptive statistics comparing firm-paid and parent-paid CEOs in their first year of tenure in the firm. After considering the aging in place of CEOs, inferences are similar to those reported in Panel A: parent-paid CEOs tend to be older, are more likely to have experience in the government, are less likely to hold dual positions, are more likely to have a title in the parent firm and are more (less) likely to be promoted (demoted).

Panel C of Table 2 decomposes all CEO turnovers in our sample. Out of the 1623 cases of CEO turnover, more than 56% occurred in the firm-paid group. The promotion group represents 28.71 percent of turnovers, which is a significant proportion. Parent-paid CEOs are significantly more likely than firm-paid CEOs to leave due to a promotion, accounting for almost 73% of the total promotion cases. Turnover in all the other categories of turnover, including control right change, retirement, and demotion, occur much more frequently for firm-paid CEOs.

(Insert Table 2 here)

4.2. Parent-paid CEOs and future promotion

Table 3 provides the results of estimating model (1). The coefficients of *Ppaid* are significantly positive in the models for promotion and career outcome, and significantly negative for demotion. In the *Promotion* model (column 1), the value of the coefficient of *Ppaid* (0.66) implies that holding other variables at the mean value, there is a marginal 6.3% increase in the general promotion probability in parent-paid firms. In the demotion model, we find that being parent-paid is associated with 3.1% reduction in the probability of being demoted. Results for the ordered probit in column (3) provide evidence that parent-paid CEOs have more favorable career outcomes.[11] For the dependent variable, we also try a variation with a lag of two years, i.e. $Promotion_{t+2}$, and the results remain generally the same. In additional sensitivity analyses, we exclude turnovers due to retirements and changes in control rights. Further, we exclude observations with demotion from the promotion models and observations with promotions from the demotion model. Our results are robust to these variations.

Results for control variables are generally in alignment with our expectations. *AGE* is significantly negatively associated with the probability of future promotion, likely because the Chinese government in principle does not promote any official who is older than 60. Surprisingly, we find holding dual positions in a firm (*Dual*), is significantly negatively related to both promotion and demotion, suggesting that having more roles in the listed firm makes it harder for a CEO to be replaced due to either promotion or demotion. A CEO's work experience in the government also plays a significantly positive role in future promotion. *AROA* is not related to promotions in the probit model. But it is strongly negatively associated with demotions, indicating that CEOs with better operating performance during the tenure are

[11] In the ordered probit, the coefficients *Cut1* and *Cut2* reflect intercepts for *CareerOutcome*=-1 and *CareerOutcome*=0, respectively.

less likely to be demoted. The performance measure also has a significantly positive coefficient in the ordered probit model of career outcome.

(Insert Table 3 here)

It is possible that parent-paid CEOs have a higher (lower) probability of promotion (demotion) because they are more talented and they are selected for this type of contract. In this case, the increase in promotion is driven by selection rather than reflecting an increased promotion incentive. We investigate the issue of selection in several ways. These analyses investigate the CEO's choice to enter into a parent-paid contract and changes in the promotion incentive as individual CEOs move from parent-paid to firm-paid contracts, and vice versa.

Our first analysis of selection explores CEOs' willingness to sign parent-paid contracts. Our basic argument is that parent-paid CEOs are strongly motivated by career concerns. This notion is supported by the lower explicit pay levels for these managers. To investigate whether career concerns are related to the CEO's willingness to accept a parent-paid contract with a lower salary, we estimate model (1) replacing *Ppaid* with *Prepromotion,* which takes value one if the company's prior CEO was promoted and proxies for an ex ante expectation that the new CEO will be promoted; If the previous CEO was promoted, then the incoming CEO will likely assume that he has a similar likelihood of promotion. If the incoming CEO expects to have a higher likelihood of promotion, then he should be more likely to accept the lower level of pay associated with a parent-paid contract.

Results reported in Table 4 are consistent with CEOs signing parent-paid contracts then there is a higher ex ante probability that they will be promoted. The coefficient of *Prepromotion* is significantly positive for the sample overall (column 1) and when we isolate the first year of the CEO's tenure in a firm (column 2). These results provide evidence that CEOs consider the probability of promotion before they sign a parent-paid contract. In

additional analysis that are unreported, we estimate a two-stage model, employing the model reported in Table 4 as the first stage, and incorporating the resulting Inverse Mills Ratio (IMR) into model (1). Controlling for selection in this manner does not change our inferences, and parent-paid CEOs continue to exhibit a higher (lower) probability of promotion (demotion).[12]

(Insert Table 4 here)

Use of parent-paid contracts is neither firm- nor CEO-specific. As a second means of addressing the potential selection issue we examine a subsample of CEOs whose compensation contracts have been switched, either from firm-paid to parent-paid or from parent-paid to firm-paid. This switch offers a unique setting to control for pre-selection effects since the sample of firms and CEOs is constant before and after the switch. As before, we include variables for CEO characteristics and firm performance. Controlling for these factors, we expect to see a decrease (increase) in the probability of promotion when the CEO switches from parent-paid to firm-paid (paid to parent-paid), which would be consistent with a greater use of promotion incentives when the CEO is parent-paid.

Using subsamples of CEOs who switched contracts, matched with CEOs who did not switch, our logistic regression model is

$$\begin{aligned} Promotion_{t+1} = {} & \beta_0 + \beta_1 Switch_t + \beta_2 Age_t + \beta_3 Male + \beta_4 Dual_t + \beta_5 ROA_t + \beta_6 Sales\ Growth_t \\ & + \beta_7 Size_t + \beta_8 Leverage_t + \beta_9 Largest_t + \beta_{10} CEOshare_t + \beta_{11} Government_t \\ & + \varepsilon_t \end{aligned} \quad (2)$$

where *Switch* is one of two variables: *Ppaid to Fpaid* (reported in Table 5) or *Fpaid to Ppaid* (reported in Table 6). As before, we examine the probability of promotion, demotion, and a combined measure of career outcome. For CEOs switching from parent-paid to firm-paid, we match with CEOs who are parent-paid during their entire tenure and construct the dummy variable *Ppaid to Pay,* which equals 1 if a CEO receives a positive salary and 0 otherwise. For

[12] Since lack of data on the prior CEO's career outcome dramatically reduces sample size, we do not use this as our primary analysis.

CEOs switching from firm-paid to parent-paid, we match CEOs who switch from firm-paid to parent-paid with CEOs who are paid directly by their firms during their entire tenures and construct the dummy variable *Fpaid to Ppaid*, which equals 1 if a CEO receives no salary and 0 otherwise.[13] We expect *Ppaid to Fpaid* to be negatively associated with a CEO's future chance of promotion and *Fpaid to Ppaid* to have positive association.

Table 5 reports results of the promotion analysis for CEOs switching from parent-paid to firm-paid versus their matched parent-paid peers. We find that switching from parent-paid to firm-paid (*Ppaid to Fpaid* = 1) significantly hurts a CEO's future chance of business promotion (column 1). Specifically, switching from a parent-paid contract to a firm-paid contract is associated with a 4.2% reduction in the probability of future promotion. Such a switch also increases the probability of a demotion by 2.1%. Overall, switching is associated with a significantly more negative career outcome. Table 6 reports regression results for CEOs switching from firm-paid to parent-paid versus their matched firm-paid peers. *Fpaid to Ppaid* has significant positive coefficients in the models for promotion and career outcome, and a significant negative coefficient for demotion. Column (1) indicates a 5.2% increase in the overall likelihood of promotion. Column (2) indicates a 5.1% decrease in the probability of demotion.

(Insert Tables 5 and 6 here)

Over all, the analyses on CEOs' incentive method and future promotion provide evidence in support of H1, that is, that parent-paid CEOs have strong incentives related to their career concerns. While they may not receive performance-based pay in the current period, parent-paid CEOs enjoy a significantly higher probability of being promoted.

4.3 The Split Share Structure Reform

[13] Most CEOs who switch do so only once. Multiple switches are rare. Consideration of multiple switches does not impact our inferences.

While our results show that parent-paid CEOs have stronger incentives from career concerns, there are some unresolved issues in interpreting our results. For example, the result that CEOs who switch between firm-paid and parent-paid contracts face different probabilities of (and hence incentives for) promotion may indicate secondary sorting by the companies. CEOs who are originally seen as less (more) talented and given a firm-paid (parent-paid) position but then elevated (reduced) to a parent-paid (firm-paid) position once their true type becomes known would produce results similar to those reported in our tables 5 and 6. Our controls for CEO characteristics and firm performance in those models may not fully control for this possibility. To provide some additional insights, we examine a setting where the relative strength of the internal career concerns and market incentives changes due to exogenous changes in the regulatory environment.

As we conjecture in H2, the Split Share Reform strengthens SOE market incentives and likely influences the nature of compensation incentives. Specifically, since the reform strengthens external monitoring, the substitute effect of internal governance suggests that promotion incentives for the parent-paid CEOs become relatively weaker.

The reform provides a powerful test of the career concerns because it entailed staggered adoption. The reform started on April 29, 2005. Four hundred and three firms finished complying in 2005, 866 in 2006, 103 in 2007, 29 in 2008, and 17 between 2009 and 2011. By the end of 2012, 10 firms had yet to complete adoption.

To test H2, we adapt equation (1) by including a dummy variable (*Reform*) for the period after firms' reform adoption and an interaction term *Ppaid* × *Reform*, which is an interaction term between CEO payment type and the post-reform period. If the reform weakens the use of promotion incentives for parent-paid CEOs, we would expect to see a

negative coefficient of the interaction terms in the models for promotion and career outcome, and a positive coefficient of the interaction in the demotion model.

Table 7 provides results of the regression analysis. For parsimony, we only report coefficients of the variables of interest. Panel A reports results for career outcomes in the following year. Similar to results of prior analyses, *Ppaid* is positive and significant in the models for promotion and career outcome (columns 1 and 3 respectively) and negative and significant model for demotion (column 2). Although results for the interaction term in the promotion model (column 1) are inconsistent with our expectations, the reform appears to have dampened incentives related to demotions and reduced overall career outcomes, at least in the short term. In Table 7, panel B, when we extend the window for promotion/demotion to two years, all results are consistent with H2. F tests of *Reform* + *Ppaid* × *Reform* suggest that, after the reform, there still a significant difference in the probability of promotion/demotion between being firm-paid and parent-paid, although based upon the significant interaction term, the difference narrows. These results provide evidence that the incentives provided to firm-paid and parent-paid CEOs moved closer together after the reform, potentially because market incentives partially replaced career incentives. [14]

(Insert Table 7 here)

4.3. Parent-paid CEOs and firm performance

Assuming the two different types of incentive mechanism are applied appropriately in equilibrium, *ceteris paribus* there should be no difference in the CEOs' performance outcome. However, based upon our hypotheses H3a-H3c and univariate analysis results, we examine

[14] Disclosure requirements for compensation information underwent several changes during our sample period. From 1999 to 2001, Chinese listed firms were only required to disclose a range of compensation for their CEOs. From 2001 to 2005, disclosure requirements were expanded to include the sum of total compensation for the three highest-paid executives. Finally, starting from 2006, all listed firms must report each individual executive's total compensation, which is the sum of salary, bonus, stipends, and other benefits. Since unpaid CEOs' compensation was not disclosed until 2012, which is after our sample period, changes in disclosure do not affect our tests of H2.

whether CEOs with promotion incentives perform differently than their firm-paid peers. In our tests for differences in performance across contract types, we control for selection issues using a two-stage model:

$$Ppaid_t = \beta_0 + \beta_1 IndustryPay_t + \beta_2 Age_t + \beta_3 Dual_t + \beta_4 Size_t + \beta_5 Leverage_t + \beta_6 Largest_t + \beta_7 CEOShare_t + \beta_8 Government_t + \beta_9 Idirector_t + \varepsilon_t \quad (3a)$$

$$Performance_t = \beta_0 + \beta_1 Ppaid_t + \beta_2 Age_t + \beta_3 Dual_t + \beta_4 Size_t + \beta_5 Leverage_t + \beta_6 Largest_t + \beta_7 CEOShare_t + \beta_8 Government_t + \beta_9 Idirector_t + \beta_9 IMR + \varepsilon_t \quad (3b)$$

where the first-stage regression predicts the probability of a CEO being granted with a parent-paid contract, and the second-stage regression examines the effect of parent-paid incentive mechanism on firm performance. The first stage employs *IndustryPay* as an instrumental variable while controlling for all other control variables in regression model (3b). *IndustryPay* is defined as the percentage of parent-paid executives in the SOEs from same industry. High industry percentage of parent-paid executives may indicate existence of an industry norm, and thus positively relate to a firm's parent-pay practice. The opportunities for future promotion are mainly determined by local government where a SOE is located and are not necessarily related to the industry norm. *Performance* is measured with different variables, depending on the hypothesis we are testing. For tests of H3a, *Performance* is either *ROA*, which is defined as the firm's net income deflated by its average assets, or *RET*, which is the firm's annual buy-and-hold stock return adjusted by market return. For our test of H3b, *Performance* is *Asset turnover*, which is total sales divided by average total assets. For our tests of H3c, *Performance* is *Sales growth*, which is the firm's sales in year t minus sales in year t-1, deflated by sales in year t-1; *ΔAssets*, which is the percentage change in total assets; and *ΔEmployees*, which is log change in the number of employees. These variables capture different aspects of firm performance, especially given the specific nature of Chinese SOEs. *ROA* is the traditional accounting measure for a firm's profitability. *RET* captures a firm's success from the perspective of the financial market. *Asset turnover* measures how efficiently

the firm can turn its assets into sales. *Sales growth*, *ΔAssets*, and *ΔEmployees* measure the firm's speed of expansion. Expansion is especially meaningful for SOEs, since government-owned enterprises emphasize growth in business scale.

Table 8 reports results of our analyses. In the first stage regression (column 1), our instrumental variable is positively related to whether a CEO receives compensation from the parent company. Among the six measures of firm performance reported in columns (2-7), *ROA* is positively associated with *Ppaid* with a statistical significance at 5% level. Specifically, having a parent-paid CEO is associated with 0.5% increase in a firm's return on assets, after controlling for other important variables. Moreover, *Ppaid* is positively associated with *ΔAsset*, which is significant at the 1% level, implying that a parent-paid CEO is associated with 2.9% of growth in the company's asset. However, *Ppaid* is not significant in explaining stock return, asset turnover, sales growth, or the change in the company's number of employees. In sum, we find that firms with parent-paid CEOs perform at least similar to those with firm-paid CEOs. We provide evidence that firms with parent-paid CEOs outperform the control group along some dimensions.

In addition to our variable of interest, several of the control variables are significantly related to the different performance measures. Company size (*Size)* is generally positive and significant in explaining firm performance, indicating that larger firms tend to perform better. *Leverage* is generally negatively associated with firm performance, implying that a more indebted firm is less likely to perform well. The percentage of government ownership, *Largest*, is positively and significantly associated with *ROA* and *ΔAssets*. Thus the more shares the Chinese government owns, the better the firm seems to perform with respect to ROA and growth of assets. We also control for CEO characteristics as potentially explaining firm performance outcomes. Although CEO share ownership in Chinese SOE firms is generally low, ownership (*CEOShare*) is associated with sales growth and asset growth.

Whether a CEO holds dual titles in a firm (*Dual*) is significantly associated with all measures of performance, but is negatively associated with ROA and positively associated with all other measures. The CEO's age has mixed results and does not seem to consistently affect firm performance. Whether a CEO has a government background relates positively to ROA, but negatively with stock return and asset turnover. Further, the inverse Mills ratio is statistically significant in all six columns of the table, indicating existence of a selection issue in the analyses of parent-paid incentive's effect on firm performance.

(Insert Table 8 here)

4.4. Parent-paid CEOs and tunneling

Hypothesis H4 explores the association between CEO incentives and tunneling. Because we provide arguments both consistent with and contradictory to tunneling by firms with parent-paid CEOs, we do not have any specific sign predictions. For our hypothesis test, we estimate the two-stage model in equations (3a) and (3b), replacing the dependent variable in model (3b) with two proxies for tunneling. Following Cheung et al. (2010), Jiang et al. (2010), and Jian and Wong (2010), *Transfer* is defined as total amount of fund transfers through related party transactions from the listed firm to its parent company, other firms in the same group, or both over total assets. *OtherAR* is defined as the firm's balance of other receivables over total assets.

Table 9 presents results of second-stage regression model (3b). Results indicate that *Ppaid* is significantly negatively associated with *Transfer*, indicating that companies with parent-paid CEOs engage in *less* tunneling. Having a parent-paid CEO is associated with an average of 0.6% less net transfer to the related parties. *Ppaid* is not significantly related to *OtherAR*. While our univariate results indicate a nonzero level of tunneling for our firms, this

activity is lower in firms with parent-paid executives. Thus, it does not appear that parent-paid CEOs are put in place to extract resources for the parent SOE.

(Insert Table 9 here)

Although not directly related to our hypothesis H4, as an additional test we investigate the impact of the reform on firm performance and tunneling behavior. As market incentives become more important for all firms, there may be a greater focus on financial performance. We thus expect an improvement in financial performance for all companies. This improvement may differ across firms with firm-paid versus parent-paid CEOs, however. As market incentives become stronger after the reform and consistent with our results in table 8, differences in incentives for firm-paid versus parent-paid CEOs likely become less extreme. If so, there should be less difference in financial performance between the two sets of firms. In addition, market objectives, such as improved ROA, should become more important than SOE-specific objectives, such as sales growth or tunneling. In untabulated results, we find that the Reform was associated with improvements in ROA, stock market return, asset turnover, sales growth, and a decrease in tunneling through other receivables. This positive impact of the reform on ROA, and sales growth was significantly less for parent-paid firms, however. These results are consistent with closer alignment of incentives across parent-paid and firm-paid CEOs. We also find that both types of tunneling decreased significantly more for parent-paid firms.

Taking all of our results together, we find that the Split Share Structure Reform provided stronger link between executive incentives and stock market performance for all firms. In the course of doing so, it weakened the strength of future promotion as an incentive for SOE CEOs and consistent with closer alignment of incentives, reduced performance differences between parent- and firm-paid firms.

4.5. Robustness tests

Our results provide evidence that parent-paid CEOs are associated with a significantly higher chance of future promotion. One potential concern is that these executives work mainly in the parent firms and have only nominal positions in the listed firms. To mitigate this concern, we conduct a robustness test focusing on executives with dual titles, i.e., serving as both the chairperson of the board and the general manager of the firms. Since the job of a general manager usually involves the firm's day-to-day operations, an executive with dual titles are most likely to work full-time at the firm. Columns (1)-(3) of Table 10 present results of regressions with the interaction between dual title and parent-paid dummy. The coefficient of the interaction term is positive and significant in Column (1), but insignificant in Column (2) and Column (3), suggesting that parent-paid CEOs, who are more involved in the firms' operations have an increased likelihood of promotion.

Another factor that may affect promotion decisions for our sample firms is turnover in the local government. Turnover creates uncertainty regarding promotion decisions for existing SOE CEOs. New political leaders may reevaluate the competence and the loyalty of subordinates, which potentially results in greater SOE turnover. On the other hand, if a parent-paid executive has pre-arranged career path, turnover within the political hierarchy can provide an opportunity for career progression. We construct a dummy variable to measure government turnover, *GTurnover*, which takes value 1 if there is turnover of the governor in the province where the ultimate controlling owner of a listed firm resides, and 0 otherwise. In Table 10, we find evidence that government turnover primarily affects the probability of demotions, decreasing their probability. We continue to find evidence that parent-paid CEOs have a higher promotion (lower demotion) probability after controlling the uncertainty from government turnover. To mitigate the concerns of selection effects, we further control the

number of job titles CEOs hold in other firms, including in the parent company. Our results remain qualitatively the same.

(Insert Table 10 here)

The last robustness check we perform involves the perquisites our sample CEOs may receive. It is well known that Chinese executives enjoy non-cash perquisites in addition to their monetary compensation. This non-cash compensation has performance implications (Yermack 2006; Rajan and Wulf 2006) and may drive our results for H3a-H3c and H4. To mitigate this alternative explanation, we re-estimate our performance and tunneling models, incorporating a proxy for perquisites, *Mperk* as a control.

Unlike the United States, China does not require listed firms to disclose executive perks. Therefore we rely on administrative expense (*Admin Expense*) to estimate the amount of perquisite compensation. Following Luo et al. (2011), we regard the abnormal level of administrative expenses as *Mperk*. The normal level of administrative expenses (*Nexp*) is estimated by using the following equation for each year and for each industry:

$$\frac{\text{Admin expense}_t}{Assets_{t-1}} = \beta_0 + \beta_1 \frac{1}{Assets_{t-1}} + \beta_2 \frac{\Delta Sales_t}{Assets_{t-1}} + \beta_3 \frac{PPE_t}{Assets_{t-1}} + \beta_4 \frac{Inv_t}{Assets_{t-1}} + \beta_5 LnEmployee_t \quad (4)$$

Admin Expense$_t$ is total administrative expenses, excluding annual provisions of asset impairments and direct compensation for directors and top executives. Assets$_{t-1}$ is lagged total assets. $\triangle Sales_t$ is change in sales. PPE_t is net value of property, plant, and equipment. Inv_t is year-end value of inventories. $LnEmployee_t$ is natural log of number of employees. *Mperk* is calculated as the difference between *Admin Expense* and *Nexp*.

Table 11 presents the results on the impact of executive perks. Results supporting our hypotheses are now stronger; with additional significant results relating to asset turnover

(H3b) and sales growth (H3c). We thus find that after controlling executive perks, firms with parent-paid CEOs tend to have higher financial performance, operational efficiency, and tunnel less.

(Insert Table 11 here)

5. Conclusion

We examine an unusual phenomenon of Chinese executives receiving zero pay from the firms for which they work. Rather than being paid by their immediate employer, these executives are paid by their SOE parent companies. We find that these CEOs are strongly motivated and disciplined by the opportunity of future promotion. Indeed, compared to their firm-paid peers, parent-paid CEOs have a significantly higher probability of being promoted. We also find that firms with parent-paid CEOs outperform their peer firms and engage in less tunneling from the subsidiaries to the controlling parent firms. The results are robust to alternative means of controlling for endogeneity and prescreening effects.

To provide additional evidence regarding promotion-related incentives, we conduct an event study using the Split Share Structure Reform in 2006. This reform resulted in a strengthening of market incentives for all SOEs in China. We find evidence consistent with this increased in emphasis on market incentives resulting in movement away from use of promotion incentives. Our evidence indicates a reduction in the use of promotion incentives, with the probability of promotion for parent-paid CEOs declining following the reform.

Our setting provides a unique opportunity to empirically explore the effectiveness of career concerns relative to monetary incentives through performance-based pay. Prior research could only use inexact measures such as the executives' age and tenure to proxy for career concerns. The Chinese SOE setting provides a stronger analysis of career concerns, because the firm-paid and parent-paid executives face demonstrably different incentives.

Our results also illuminate executive compensation mechanisms in Chinese SOEs and help explain how parent-paid CEOs can have strong incentives to perform, even in the absence of strong pay-performance incentives. We show that the concerns raised by the Chinese popular press about a lack of performance incentives are ungrounded and that the firms with parent-paid CEOs perform at least as well as, if not better than, the control group with firm-paid CEOs.

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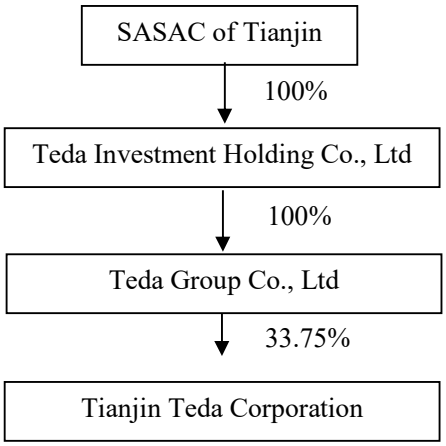
Appendix A: Illustration of the structure of a local SOE

Tianjin Teda Corp is a listed SOE, stock code 000652. It is controlled by the government of Tianjin city through two layers. The following figure illustrates the ownership structure:



Huiwen Liu was the chairman of Tianjin Teda Corp from 1997 to 2011, receiving no compensation from the listed firm. He was also the chairman of Teda Investment Holding Co. from 2006 to 2011. In May 2011, at the age of 57, he resigned all his titles to become the chairman of Bohai Property Insurance Co., an unlisted SOE with a revenue of RMB1.5 billion, which is much smaller than the RMB51 billion revenue of Tianjin Teda Corp. His successor, Jun Zhang, the general manager of Teda Group Co. since 2008, became the chairman of Tianjin Teda Corp. Jun Zhang did not receive compensation from the listed firm either. After two years of service at the listed firm, at the age of 46, he was promoted to vice president of Teda Investment Holding in February 2013.

TABLE 1
Sample distribution

Year	Firm-paid CEOs	Parent-paid CEOs	Total
1999	365	233	598
2000	399	276	675
2001	433	277	710
2002	443	266	709
2003	438	253	691
2004	445	241	686
2005	412	251	663
2006	398	236	634
2007	393	256	649
2008	367	276	643
2009	371	268	639
2010	375	280	655
2011	384	266	650
Total	5223	3379	8602

TABLE 2
Summary statistics
Panel A: comparison between samples of firm-paid ceos and parent-paid ceos at firm level

	Parent-paid CEO (1)			Firm-paid CEO (2)			
	N	Mean	median	N	Mean	median	(2) - (1)
Age	3379	50.955	51	5222	50.408	51	-0.547***
Male	3379	0.967	1	5222	0.96	1	-0.007*
Government	3379	0.421	0	5222	0.346	0	-0.075***
Dual	3379	0.02	0	5222	0.189	0	0.170***
Tenure	3379	4.467	3	5222	4.559	4	0.092
Shareholdertitle	2869	0.774	1	4454	0.458	0	-0.316***
Titles	2869	1.765	1	4454	1.294	1	-0.470***
Promotion	3379	0.101	0	5222	0.024	0	-0.077***
Demotion	3379	0.065	0	5222	0.092	0	0.027***
CareerOutcome	3379	0.036	0	5222	-0.068	0	-0.104***
Prepromotion	1864	0.383	0	2416	0.264	0	-0.119***
Assets (billions)	3379	4.576	2.091	5222	3.98	1.717	-0.596***
Leverage	3379	0.506	0.496	5222	0.505	0.501	-0.001
CEOshare	3379	0.0001	0	5222	0.0008	0	0.0007***
Largest	3379	0.453	0.455	5222	0.41	0.396	-0.042***
Idirector	3379	0.282	0.333	5222	0.28	0.333	-0.002
ROA	3379	0.031	0.033	5222	0.028	0.031	-0.002
Sales growth	3379	0.227	0.134	5222	0.184	0.138	-0.043***
RET	3379	-0.016	-0.052	5222	-0.036	-0.058	-0.020**
Asset turnover	3379	0.7	0.575	5221	0.159	0.537	-0.047***
Δassets	3379	0.167	0.09	4605	-0.004	0.092	-0.009
Δemployees	3026	-0.026	0	5222	0.047	0.008	0.022
Admin Expense	3379	0.046	0.038	5222	0.008	0.039	0.001
Transfer	3379	0.006	0	5222	0.054	0	0.002
OtherRA	3379	0.05	0.018	5221	0.159	0.023	0.004**

Panel B: subsample comparison between firm-paid ceos and parent-paid ceos in the first year of tenure

	Parent-paid CEO (1)			Firm-paid CEO (2)			
	N	Mean	median	N	Mean	median	(2) - (1)
Age	704	48.274	48	697	46.666	47	-1.608***
Male	704	0.970	1	697	0.954	1	-0.016
Government	704	0.422	0	697	0.337	0	-0.085***
Dual	704	0.023	0	697	0.188	0	0.165***
Shareholdertitle	636	0.736	1	638	0.415	0	-0.320***
Titles	636	1.492	1	638	0.854	1	-0.638***
CEOshare	704	0.000	0	697	0.000	0	0.00
Career outcome	704	0.071	0	697	-0.247	0	-9.021***

Panel C: CEO turnovers by type

		Firm-paid		Parent-paid	
	total	N	Percent	N	Percent
All Turnovers	1623	913	56.25%	710	43.75%
Promotion	466	126	27.04%	340	72.96%
Change in control right	218	148	67.89%	70	32.11%
Retirement	235	156	66.38%	79	33.62%
Demotion	704	483	68.61%	221	31.39%

This table provides comparative statistics between firm-paid CEOs and Parent-paid CEOs at the firm level (Panel A) and at the executive level in the starting year of tenure (Panel B). Age: a CEO's age; Male: dummy variable, 1 if a CEO is male and 0 otherwise; Government, a dummy variable, 1 if a CEO worked for government or military and 0 otherwise; Dual: dummy variable, 1 if the chairman is also general manager and 0 otherwise; Tenure, the number of years as CEO; Shareholdertitle, a dummy variable, 1 if a CEO has a job title in the parent company and 0 otherwise; Titles, the number of titles a CEO has other than those in a listed firm; Prepromotion, a dummy variable, 1 if a CEO' predecessor leaves for a job in government, a higher position in the parent group, or an executive position of a larger firm and 0 otherwise; Promotion, a dummy variable, 1 if a CEO leaves for a job in government, a higher position in the parent group, or an executive position of a larger firm in year t+1 and 0 otherwise; Demotion, a dummy variable, 1 if a CEO leaves due to reasons other than retirement, change in control right, or promotion, and 0 otherwise; Career outcome: -1 if a CEO is demoted, 1 if promoted, and 0 for the rest; Assets, total assets in billions; Leverage, total liabilities deflated by total assets; CEOshare: the percentage of stock owned by a CEO; Largest: the percentage of stock owned by the largest shareholder; Idirector, the percentage of independent directors on board; ROA: net income deflated by average assets; Sales growth: sales in year t minus sales in year t-1, deflated by sales in year t-1; RET: annual buy-and-hold stock return adjusted by market return; Asset turnover: total sales divided by average total assets; Δassets: percentage change in total assets; Δemployees: log change in number of employees; Admin Expense: administrative expenses excluding annual provisions for asset impairments and total executive and director compensation, deflated by total assets; Transfer: funds transferred from the listed firm to its parent company and/or other firms in the same group; OtherRA: other receivables divided by total assets. ***, **, and * denote significant differences across subsamples at the 1%, 5%, and 10% levels, respectively. Panel C describes types of CEO turnovers.

TABLE 3
Career outcome and CEO pay type

VARIABLES	Promotion (1)	Demotion (2)	CareerOutcome (3)
Ppaid	0.658***	-0.231***	0.425***
	(12.79)	(-5.21)	(11.83)
Age	-0.519***	0.128	-0.267**
	(-3.19)	(0.83)	(-2.33)
Male	0.117	-0.129	0.118
	(0.84)	(-1.32)	(1.44)
Dual	-0.331***	-0.267***	0.068
	(-3.12)	(-4.00)	(1.63)
AROA	-0.799	-2.012***	0.934**
	(-1.60)	(-4.54)	(2.47)
Sales growth	-0.056	-0.144***	0.052
	(-1.08)	(-2.74)	(1.55)
Size	0.019	-0.058**	0.041**
	(0.71)	(-2.56)	(2.33)
Leverage	0.026	0.053	-0.031
	(0.20)	(0.46)	(-0.33)
Largest	0.124	-0.005	0.047
	(0.79)	(-0.04)	(0.45)
CEOshare	-3.317	-15.152	1.585**
	(-0.40)	(-1.22)	(2.26)
Government	0.211***	-0.126***	0.159***
	(4.08)	(-2.81)	(4.49)
Constant	-0.162	-0.291	
	(-0.21)	(-0.39)	
Cut1			-1.322**
			(-2.40)
Cut2			1.776***
			(3.22)
Observations	8,601	8,601	8,601
Pseudo R^2	0.0901	0.0374	0.0323

This table presents results of career outcome and CEO pay type. In Column (1), the dependent variable of probit model is Promotion, a dummy variable that equals to 1 if the chairman leaves for a job in the government, a higher position in the parent group, or an executive position of a larger firm in year t+1 and otherwise zero. In Column (2), the dependent variable is Demotion, a dummy variable that equals to 1 if CEO turnover due to reasons other than retirement, control right transfer, or promotion and 0 otherwise. In Column (3), the dependent variable of ordered probit model is Career outcome that equals to -1 if a CEO is demoted, 1 if promoted, and 0 for the rest. AROA is the average ROA during a CEO's tenure in a given year. Other variables are defined in Table 2. We control fixed effects of industry and year. Z statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

TABLE 4
CEO pay type and ex ante probability of promotion

VARIABLES	Full sample (1)	First year of tenure (2)
Prepromotion	0.281***	0.218***
	(6.33)	(2.65)
Age	0.768***	0.674**
	(4.64)	(2.37)
Male	0.576***	0.327
	(4.45)	(1.54)
Dual	-1.456***	-1.410***
	(-14.62)	(-8.96)
ROA	-0.297	0.348
	(-0.75)	(0.54)
Sales growth	0.051	-0.004
	(1.14)	(-0.06)
Size	0.014	-0.055
	(0.61)	(-1.34)
Leverage	0.237**	0.384**
	(2.00)	(1.96)
Largest	0.776***	0.420
	(5.42)	(1.63)
CEOshare	-282.313	-58.407
	(-1.60)	(-0.48)
Government	0.120***	0.202**
	(2.64)	(2.49)
Constant	-5.949***	-3.726**
	(-6.78)	(-2.52)
Observations	4,280	1,281
Pseudo R^2	0.1162	0.1164

This table presents results of probit model of CEO pay type. The dependent variable is Ppaid, a dummy variable that equals to 1 if a chairman receives compensation from a listed firm's parent company instead of the listed firm and 0 otherwise. We proxy a CEO's ex ante probability of promotion by Prepromotion, a dummy variable that equals to 1 if a CEO's predecessor gets promotion (i.e., leaving for a job in government, a higher position in the parent group, or an executive position of a larger firm) and 0 otherwise. We use full sample and first year of tenure in Column (1) and (2) respectively. Variables are defined in Table 2. We control fixed effects of industry and year. Z statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

TABLE 5
Switching from parent-paid to firm-paid and CEO career outcome

VARIABLES	Promotion (1)	Demotion (2)	CareerOutcome (3)
Ppaid to Fpaid	-0.335***	0.157*	-0.227***
	(-3.23)	(1.72)	(-3.52)
Age	-0.397*	0.654**	-0.515***
	(-1.76)	(2.21)	(-2.70)
Male	0.069	-0.426**	0.291*
	(0.35)	(-2.46)	(1.74)
Dual	-0.101	-0.094	-0.031
	(-0.54)	(-0.50)	(-0.24)
AROA	-0.557	-2.186***	0.682
	(-0.95)	(-3.36)	(1.35)
Sales growth	-0.008	-0.093	0.034
	(-0.13)	(-1.48)	(0.80)
Size	-0.007	-0.026	0.008
	(-0.19)	(-0.76)	(0.31)
Leverage	0.141	-0.154	0.161
	(0.89)	(-0.85)	(1.22)
Largest	0.082	-0.332	0.211
	(0.40)	(-1.40)	(1.30)
CEOshare	-600.305	20.415	-18.348*
	(-1.21)	(1.07)	(-1.72)
Government	0.110*	-0.195***	0.157***
	(1.69)	(-2.68)	(3.12)
Constant	0.440	-2.526**	
	(0.41)	(-1.99)	
Cut1			-2.790***
			(-3.24)
Cut2			0.044
			(0.05)
Observations	3,524	3,524	3,524
Pseudo R^2	0.0362	0.0427	0.0205

This table uses a subsample of CEOs who change from parent-paid contracts to firm-paid contracts during their tenures and CEOs who have parent-paid contracts during their tenures. In Column (1), the dependent variable of probit model is Promotion, a dummy variable that equals to 1 if the chairman leaves for a job in the government, a higher position in the parent group, or an executive position of a larger firm in year t+1 and otherwise zero. In Column (2), the dependent variable is Demotion, a dummy variable that equals to 1 if CEO turnover due to reasons other than retirement, control right transfer, or promotion and 0 otherwise. In Column (3), the dependent variable of ordered probit model is Career outcome that equals to -1 if a CEO is demoted, 1 if promoted, and 0 for the rest. Ppaid to Fpaid, a dummy variable, is 1 if a CEO receives any salary from their firms and zero otherwise. AROA is the average ROA during a CEO's tenure in a given year. Other variables are defined in Table 2. We control fixed effects of industry and year. Z statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

TABLE 6
Switching from being firm-paid to parent-paid and CEO career outcome

	Promotion	Demotion	CareerOutcome
VARIABLES	(1)	(2)	(3)
Fpaid to Ppaid	0.689***	-0.468***	0.596***
	(6.46)	(-3.71)	(6.40)
Age	-0.721***	-0.081	-0.141
	(-2.96)	(-0.44)	(-0.93)
Male	0.103	-0.024	0.054
	(0.48)	(-0.19)	(0.54)
Dual	-0.420***	-0.304***	0.108**
	(-3.11)	(-4.20)	(2.16)
AROA	-0.952	-1.926***	1.229**
	(-1.01)	(-3.15)	(2.26)
Sales growth	-0.268***	-0.194**	0.068
	(-2.74)	(-2.39)	(1.34)
Size	0.088**	-0.085***	0.080***
	(2.12)	(-2.73)	(3.22)
Leverage	-0.251	0.180	-0.224*
	(-1.07)	(1.16)	(-1.66)
Largest	0.316	0.130	-0.006
	(1.23)	(0.75)	(-0.04)
CEOshare	-0.041	-15.290	1.700**
	(-0.01)	(-1.09)	(2.01)
Government	0.354***	-0.105*	0.184***
	(3.80)	(-1.78)	(3.54)
Constant	-0.719	0.787	
	(-0.61)	(0.83)	
Cut1			-0.315
			(-0.41)
Cut2			3.089***
			(4.02)
Observations	5,077	5,077	5,077
Pseudo R^2	0.1017	0.0493	0.0357

This table uses a subsample of CEOs who change from firm-paid to parent-paid contracts during their tenures and CEOs who remain firm-paid during their tenures. In Column (1), the dependent variable of probit model is Promotion, a dummy variable that equals to 1 if the chairman leaves for a job in the government, a higher position in the parent group, or an executive position of a larger firm in year t+1 and otherwise zero. In Column (2), the dependent variable is Demotion, a dummy variable that equals to 1 if CEO turnover due to reasons other than retirement, control right transfer, or promotion and 0 otherwise. In Column (3), the dependent variable of ordered probit model is Career outcome that equals to -1 if a CEO is demoted, 1 if promoted, and 0 for the rest. Fpaid to Ppaid, a dummy variable, is 1 if a CEO receives no salary and zero otherwise. AROA is the average ROA during a CEO's tenure in a given year. Other variables are defined in Table 2. We control fixed effects of industry and year. Z statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

TABLE 7
Impact of split-share reform in 2005 on future promotion/demotion

Panel A: Future promotion/demotion in year t+1			
	Promotion	Demotion	CareerOutcome
VARIABLES	(1)	(2)	(3)
Ppaid	0.703***	-0.318***	0.519***
	-10.24	(-5.23)	-10.28
Reform	-0.907	-2.104	0.7
	(-0.57)	(-1.42)	-0.65
Ppaid × Reform	-0.093	0.196**	-0.202***
	(-0.91)	-2.21	(-2.90)
Test: Ppaid + Ppaid x Reform = 0			
χ^2	62.29***	3.46*	40.14***
Observations	8,601	8,601	8,601
Pseudo R2	0.095	0.043	0.035
Panel B: Future promotion/demotion in year t+2			
	Promotion	Demotion	CareerOutcome
VARIABLES	(1)	(2)	(3)
Ppaid	0.786***	-0.356***	0.584***
	-13.68	(-6.75)	-13.16
Reform	-0.946	-1.671	0.444
	(-0.71)	(-1.32)	-0.47
Ppaid × Reform	-0.190**	0.187**	-0.230***
	(-2.27)	-2.41	(-3.76)
Test: Ppaid + Ppaid x Reform = 0			
χ^2	94.37***	8.71***	67.17***
Observations	8,601	8,601	8,601
Pseudo R^2	0.106	0.038	0.037

Reform, a dummy variable, is 1 if the stock owned by the government is tradable and zero otherwise. Other variables are defined in Table 2. Interaction between Reform and control variables are also included. For parsimony, control variables are not included in the table, but are available from the authors. We include fixed effects for year and industry. Z statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

TABLE 8 Second-stage regression results on the association between CEO contract type and performance

VARIABLES	Ppaid (1)	ROA (2)	RET (3)	Asset (4)	Sales growth (5)	ΔAssets (6)	ΔEmployees (7)
IndustryPay	2.985***						
	(14.72)						
Ppaid		0.005**	0.012	0.012	-0.012	0.029***	-0.029
		(2.48)	(0.75)	(1.33)	(-0.62)	(2.64)	(-0.99)
Age	0.029	0.019***	-0.049	-0.031	-0.211***	-0.048	-0.136
	(0.26)	(2.85)	(-0.96)	(-1.01)	(-3.35)	(-1.25)	(-1.33)
Dual	-1.367***	-0.010**	0.215***	0.086***	0.534***	0.088***	0.278***
	(-20.42)	(-2.11)	(5.27)	(3.89)	(10.95)	(3.06)	(3.54)
Size	0.000	0.013***	-0.023*	-0.008	0.086***	0.161***	0.160***
	(0.01)	(5.61)	(-1.67)	(-0.87)	(4.81)	(14.52)	(6.26)
Leverage	0.148*	-0.175***	-0.084*	-0.112***	-0.000	-0.149***	-0.070
	(1.91)	(-21.52)	(-1.85)	(-4.27)	(-0.00)	(-4.20)	(-0.85)
Largest	1.021***	0.066***	-0.077	0.071	-0.023	0.180***	0.161
	(10.34)	(6.57)	(-0.91)	(1.48)	(-0.19)	(2.73)	(1.24)
CEO share	-54.475***	0.683	5.277	3.109	30.815***	12.684***	9.697
	(-3.06)	(1.33)	(0.91)	(1.04)	(7.43)	(2.61)	(1.57)
Government	0.216***	0.004*	-0.034*	-0.028**	-0.031	0.005	0.038
	(6.72)	(1.69)	(-1.88)	(-2.32)	(-1.32)	(0.37)	(1.13)
Idirector	-0.028	0.010	-0.068	-0.009	-0.147	0.006	-0.205
	(-0.13)	(1.04)	(-0.92)	(-0.19)	(-1.64)	(0.10)	(-1.40)
IMR		0.012***	-0.169***	-0.063***	-0.528***	-0.062***	-0.183***
		(3.11)	(-5.14)	(-3.47)	(-12.55)	(-2.69)	(-2.89)
Observations	8,594	8,594	8,594	8,594	8,594	8,593	7,625
Adjusted R^2	0.121	0.470	0.0004	0.775	0.110	0.202	0.093
Number of firms	1027	1027	1027	1027	1027	1027	1001

In the first stage, we use IndustryPay as instrument variable for Ppaid. Variables are defined in Table 2. We control fixed effects of firm, year and industry. Z statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

TABLE 9
Second-stage regression results on the association between CEO contract type and tunneling

VARIABLES	Transfer (1)	OtherAR (2)
Ppaid	-0.006**	-0.002
	(-2.53)	(-0.97)
Age	0.011	0.003
	(1.30)	(0.38)
Dual	-0.007	0.001
	(-1.18)	(0.13)
Size	0.005**	-0.001
	(2.16)	(-0.35)
Leverage	-0.004	0.082***
	(-0.38)	(8.74)
Largest	-0.029**	-0.033***
	(-2.27)	(-3.06)
CEO share	0.027	-0.312
	(0.07)	(-0.81)
Government	-0.000	-0.001
	(-0.00)	(-0.46)
Idirector	-0.006	0.000
	(-0.51)	(0.02)
IMR	0.004	0.002
	(0.86)	(0.37)
Observations	8,594	8,594
R^2	0.412	0.580
Number of firms	1027	1027

Transfer is funds transferred from the listed firm to its parent company and/or other firms in the same group. OtherAR is the balance of other receivables over total assets. Variables are defined in Table 2. We control fixed effects of firm, year, and industry. T statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

TABLE 10
CEO pay type and career outcomes: robustness tests

VARIABLE	Promotion (1)	Demotion (2)	Promotion (4)	Career outcome (3)	Demotion (5)	Career outcome (6)	Promotion (7)	Demotion (8)	Career outcome (9)
Ppaid	0.640***	-0.234***	0.659***	0.424**	-0.233***	0.427***	0.652***	-0.198***	0.405***
	(12.44)	(-5.21)	(12.83)	(11.64)	(-5.24)	(11.88)	(11.45)	(-4.06)	(10.28)
Dual	-0.434***	-0.272***	-0.331***	0.065	-0.270***	0.069*	-0.248**	-0.234***	0.074
	(-3.46)	(-3.97)		(1.57)					
Ppaid × Dual	0.435*	0.087		0.034					
	(1.75)	(0.32)		(0.17)					
GTurnover			0.061		-0.141***	0.101***	0.099	-0.128**	0.113***
			(1.05)		(-2.75)	(2.69)	(1.58)	(-2.31)	(2.73)
Titles							-0.025	-0.057***	0.017**
							(-1.65)	(-3.65)	(2.13)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,601	8,601	8,601	8,601	8,601	8,601	7,323	7,323	7,323
Pseudo R^2	0.0909	0.0374	0.0904	0.0323	0.0389	0.0331	0.0891	0.0396	0.0332

GTurnover, a dummy variable, is 1 if there is governor turnover in the province that ultimately controls a firm and 0 otherwise. Titles is the number of job titles a CEO has in other firms. For parsimony, control variables are not included in the table, but are available from the authors. We include fixed effects for year and industry. Z statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

TABLE 11
Executive perquisites, firm performance and tunneling

VARIABLES	ROA (1)	RET (2)	Asset (3)	Sales (4)	ΔAssets (5)	ΔEmployees (6)	Transfer (7)	OtherAR (8)
Ppaid	0.004**	0.013	0.017*	0.044**	0.034***	-0.027	-0.007***	-0.003
	(2.09)	(0.81)	(1.77)	(2.26)	(3.28)	(-1.40)	(-2.71)	(-1.36)
Mperk	-0.132***	0.081	0.211***	0.216**	-0.152***	-0.051	0.018	-0.015
	(-4.66)	(1.36)	(3.15)	(2.15)	(-2.98)	(-0.56)	(0.94)	(-0.87)
Age	0.013**	-0.042	-0.010	-0.195***	-0.047	-0.005	0.014*	0.003
	(1.98)	(-0.79)	(-0.32)	(-3.09)	(-1.42)	(-0.10)	(1.65)	(0.42)
Dual	0.002	0.174***	0.020	-0.105**	0.010	0.053	-0.005	0.000
	(0.47)	(3.96)	(0.87)	(-2.25)	(0.41)	(1.20)	(-0.74)	(0.05)
Size	0.013***	-0.030**	-0.009	0.103***	0.178***	0.140***	0.006**	-0.000
	(6.44)	(-2.13)	(-1.05)	(5.27)	(16.28)	(6.91)	(2.17)	(-0.12)
Leverage	-0.169***	-0.069	-0.110***	0.013	-0.071**	-0.040	-0.011	0.075***
	(-21.72)	(-1.47)	(-3.97)	(0.19)	(-2.01)	(-0.64)	(-0.88)	(8.05)
Largest	0.059***	-0.049	0.117**	0.365***	0.242***	0.201*	-0.024*	-0.032***
	(6.01)	(-0.56)	(2.39)	(2.92)	(3.69)	(1.80)	(-1.86)	(-2.91)
CEO share	0.912*	5.213	-1.159	7.575*	6.454*	0.231	0.122	-0.422
	(1.78)	(0.85)	(-0.40)	(1.72)	(1.73)	(0.05)	(0.27)	(-1.02)
Government	0.001	-0.023	-0.017	0.050**	0.015	0.015	0.000	-0.002
	(0.60)	(-1.21)	(-1.38)	(2.08)	(1.22)	(0.62)	(0.11)	(-0.82)
Idirector	0.008	-0.046	-0.039	-0.151	-0.091*	0.041	-0.007	0.002
	(0.74)	(-0.59)	(-0.77)	(-1.53)	(-1.72)	(0.45)	(-0.59)	(0.14)
IMR	-0.001	-0.126***	0.001	0.075**	0.010	-0.026	0.004	0.002
	(-0.20)	(-3.55)	(0.07)	(2.02)	(0.47)	(-0.73)	(0.64)	(0.44)
Observations	8,105	8,105	8,105	8,105	8,105	7,548	8,105	8,105
Adjusted R^2	0.499	0.012	0.781	0.093	0.213	0.086	0.427	0.587
Number of firms	1,011	1,011	1,011	1,011	1,011	995	1,011	1,011

This table presents the results on firm performance and tunneling after controlling the impact of executive perks. Mperk is the abnormal level of administrative expenses estimated by equation (5). Control variables are defined in Table 2. T statistics based on robust standard errors are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.